

WHAT IS CLAIMED IS:

1. A spray head for use with pressurized water originating from a water source to
5 produce a generally 360° spray pattern, comprising:
a body having a proximate end, a distal end, and a sidewall connecting the proximate
and distal ends, said sidewall defining a plurality of sidewall ports, said body
further having a cavity;
wherein the distal end of the body defines a distal port adapted to be coupled to the
10 water source and wherein the proximate end of the body defines a proximate
port;
an interior wall disposed within the body and defining at least a portion of the cavity,
said interior wall further defining a plurality of interior ports;
wherein the body further defines a first channel and a plurality of secondary channels,
15 the first channel being adapted to provide a first channel water flow path from
the distal end of the body to the cavity, and each of the plurality of secondary
channels being adapted to provide a second channel water flow path from one
of the plurality of interior ports to one of the plurality of sidewall ports;
wherein the cavity and the proximate port are adapted to permit the pressurized water
20 to flow from the cavity through the proximate port and to disperse the
pressurized water radially outward away from the body in the generally 360°
spray pattern;
wherein each of the plurality of secondary channels includes a first turn of greater
than 70° formed in the secondary channel between one of the plurality of
25 interior ports and one of the plurality of sidewall ports.

2. The spray head of claim 1 wherein each of the plurality of secondary channels
further includes a second turn of greater than 70° formed in the secondary channel between
one of the plurality of interior ports and one of the plurality of sidewall ports.

3. The spray head of claim 1 wherein each of the plurality of secondary channels comprises a channel section having one of a generally rectangular cross section, a generally square cross section, a generally pentagonal cross section and a generally hexagonal cross
5 section.

4. The spray head of claim 1 wherein at least a portion of the interior wall has a generally concave shape.

10 5. The spray head of claim 1 wherein the body has a generally cylindrical shape and wherein the sidewall has a generally circular cross-section.

6. The spray head of claim 1 wherein the first channel water flow path follows a generally vertical direction.

15 7. The spray head of claim 1 wherein each of the plurality of secondary channels includes an end channel portion that terminates at one of the plurality of sidewall ports, wherein for each of the plurality of secondary channels, the body is further comprised of a flow path top wall, a flow path bottom wall and two flow path sidewalls connecting the flow
20 path top and bottom walls, wherein the flow path top wall, bottom wall and sidewalls define the end channel portion, and wherein the flow path sidewalls are spaced apart from one another by a progressively increasing distance.

25 8. The spray head of claim 1 wherein the first channel water flow path follows a generally vertical direction, wherein the proximate port is at a first elevation above the distal port, wherein each of the plurality of sidewall ports is at a second elevation above the distal port, said second elevation being less than the first elevation, and wherein each of the plurality of interior ports is at a third elevation above the distal port, said third elevation being less than the second elevation.

9. The spray head of claim 8 wherein each of the plurality of secondary channels comprises a first portion extending radially outwardly from one of the plurality of interior ports, a second portion extending upwardly from the first portion, and a third portion extending radially outwardly from the second portion, said third portion terminating at one of the plurality of sidewall ports.

10. The spray head of claim 9 wherein the second portion comprises a channel section having one of a generally rectangular cross section, a generally square cross section, a generally pentagonal cross section and a generally hexagonal cross section.

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11. The spray head of claim 1 wherein the first channel water flow path follows a generally vertical direction, wherein the proximate port is at a first elevation above the distal port, wherein each of the plurality of sidewall ports is at a second elevation above the distal port, said second elevation being less than the first elevation, wherein each of the plurality of interior ports is at a third elevation above the distal port, said third elevation being generally the same as the second elevation, and wherein each of the plurality of second channel water flow paths is at generally the same elevation as the third elevation.

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12. A spray head for use with pressurized water originating from a water source to produce a generally 360° spray pattern, comprising:

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a base member having a proximate end and a distal end wherein the distal end is adapted to be coupled to the water source;

a cap member connected to the base member and disposed generally at the base member proximate end, the cap member having an upper cap surface, a lower cap surface, and an exterior wall connecting the upper and lower cap surfaces, wherein the upper cap surface defines an upper port;

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wherein the base member and the cap member define a first channel adapted to provide a first channel water flow path from the distal end of the base member through the upper port of the cap member, the first channel and the upper port

being further adapted to cause the pressurized water to disperse radially outward away from the cap member in the generally 360° spray pattern; wherein the cap member further has an interior wall that defines a plurality of interior ports, wherein the cap member exterior wall defines a plurality of exterior ports, and wherein the cap member defines a plurality of secondary channels each of which is adapted to provide a second channel water flow path from one of the plurality of interior ports to one of the plurality of exterior ports; and

wherein each of the plurality of secondary channels includes a first turn of greater than 70° formed in the secondary channel between one of the plurality of interior ports and one of the plurality of exterior ports.

13. The spray head of claim 12 further comprising a center member disposed generally between the cap member upper port and the base member distal end and having a center member port that defines at least a portion of the first channel.

14. The spray head of claim 12 wherein each of the plurality of secondary channels includes a second turn of greater than 70° formed in the secondary channel between one of the plurality of interior ports and one of the plurality of exterior ports.

15. The spray head of claim 12 wherein each of the plurality of secondary channels comprises a channel section having one of a generally rectangular cross section, a generally square cross section, a generally pentagonal cross section and a generally hexagonal cross section.

16. The spray head of claim 12 wherein the base member and the cap member define a generally cylindrical-shaped body when the cap member is connected to the base member.

17. The spray head of claim 12 wherein at least a portion of the cap member interior wall has a generally concave shape.

18. The spray head of claim 12 wherein the first channel water flow path follows a generally vertical direction.

5 19. The spray head of claim 12 wherein each of the plurality of secondary channels includes an end channel portion that terminates at one of the plurality of exterior ports, wherein for each of the plurality of secondary channels, the cap member further comprises a flow path top wall, a flow path bottom wall and two flow path sidewalls connecting the flow path top and bottom walls, wherein the flow path top wall, bottom wall and sidewalls define
10 the end channel portion, and wherein the flow path sidewalls are spaced apart from one another by a progressively increasing distance.

20. The spray head of claim 12 wherein the first channel water flow path follows a generally vertical direction, wherein the cap member upper port is at a first elevation above
15 the base member distal end, each of the plurality of cap member exterior ports is at a second elevation above the base member distal end, said second elevation being less than the first elevation, and each of the plurality of cap member interior ports is at a third elevation above the base member distal end, said third elevation being less than the second elevation.

20 21. The spray head of claim 20 wherein each of the plurality of secondary channels comprises a first portion extending radially outwardly from one of the plurality of cap member interior ports, a second portion extending upwardly from the first portion, and a third portion extending radially outwardly from the second portion, said third portion terminating
25 at one of the plurality of cap member exterior ports.

22. The spray head of claim 21 wherein the second portion comprises a channel section having one of a generally rectangular cross section, a generally square cross section, a generally pentagonal cross section and a generally hexagonal cross section.

23. The spray head of claim 12 wherein the first channel water flow path follows a generally vertical direction, wherein the cap member upper port is at a first elevation above the base member distal end, each of the plurality of cap member exterior ports is at a second elevation above the base member distal end, said second elevation being less than the first elevation, each of the plurality of cap member interior ports is at a third elevation above the base member distal end, said third elevation being generally the same as the second elevation, and wherein each of the plurality of second channel water flow paths is at generally the same elevation as the third elevation.

24. A spray head for use with pressurized water originating from a water source to produce a generally 360° spray pattern, said pressurized water including a first portion of pressurized water and a second portion of pressurized water, the spray head comprising:

- a body having a proximate end, a distal end, and a sidewall connecting the proximate and distal ends, said proximate end defining a proximate port;
- means for coupling the water source to the distal end of the body;
- means for dispersing the first portion of the pressurized water through the proximate port in a direction radially outward away from the body in the generally 360° spray pattern at a first water velocity; and
- means for dispersing the second portion of the pressurized water in a direction radially outward away from the body in the generally 360° spray pattern at a second water velocity that is less than the first water velocity, said dispersing means comprising a channel that includes a turn of greater than 70° formed in the channel.